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THE FIFTEEN-YEAR DEVELOPMENT OF
PUBLIC HEALTH AND EPIDEMIOLOGICAL WORK

By Dr. Bela Toth

- Hungary -

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FOREWORD

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I.

Significant improvement is observed in the country's public health-epidemiological circumstances over the past 15 years. The progress was made possible by the changes in political, social and economic conditions initiated with the liberation of our fatherland and with the laying of the foundations of socialism. Public health-epidemiological work is an activity which is directed at radical improvement of the living and working conditions of large groups, and even the entire population. The scope and results of social and governmental activity aimed at the improvement of public health-epidemiological conditions are determined by the given social and economical structure of the country. Naturally, this work can be but limited in capitalistic social and economical systems; its development and expansion is obstructed by such conditions.

In our country, prior to the liberation, the public health-epidemiological services were obsolete, due to the prevalent social and economic system of exploitation. Neither were the services set up to carry on the necessary activities, nor were the working conditions of the service conducive to reform of the outdated institutions. Comparing the position of public health and epidemiology of that time and of the present, we cannot but note the significant progress in the broadening network and in other results in this type of work. There is also an important development in the work of physicians and other staff in the public health-epidemiological services in regard to the standards of their work, in the introduction of measures serving the improvement of the living and working conditions of the population, and in the educational work to mold the people's attitude toward health matters.

Dr. Gyula Vilmon and others have undertaken to review the 15-year development and achievements of public health-epidemiological work as well as the tasks ahead. The present publication therefore has the purpose of summarizing the characteristics of the results and of pointing out, in the interest of future progress, a few deficiencies, the elimination of which will facilitate and, indeed, accelerate the completion of the tasks ahead of us. The limitations of this paper do not permit us to discuss the national institutions of public health and epidemiology (OKI, OMI, OETI) [abbreviations not explained in source] or the evaluation of the scientific activities pursued there.

The national institutes made valuable contributions to public health and epidemiological issues in the form of research and by working out practical methods of application of results of research.

Here I wish to express my appreciation for the valuable contribution of the staff of the division, particularly Dr. Janos Bonta, Dr. Miklos Horvath, Dr. Aladar Katay, and Dr. Metneki, in compiling the material for this article.

In discussing our results, our basic point of departure is the tremendous change that occurred during the past 15 years in the political, economic and social structure of our country. We also keep in mind constantly the manifold useful help given by the USSR in our work. Our results were born of acquaintance with the achievements of Soviet public health science, of the utilization of expert advice and experiences gleaned during study tours in the Soviet Union, and the direct and indirect help received in various ways from the USSR.

In surveying the achievements of the past 15 years, physicians and other health workers must draw satisfaction and enthusiasm for further efforts and struggle from the realization that their difficult, strenuous work was not in vain, for it resulted in an improvement of the living and working conditions of the working people. The promotion of the people's welfare, the development of health care services, and the construction of socialism in our country at the earliest possible date are the goals to strive for and to be kept in mind with redoubled efforts. To work for these objectives in the field of public health and epidemiology is a great and beautiful task.

II.

In the years following the liberation, public health and epidemiological work was carried out by the medical officers of megyes [counties], jaras [districts], and municipalities, and the district physicians within the old scope and by old methods. The preventive approach did not play a role in public health activities. The work was limited to the detection of harmful influences and measures for the elimination of the consequences. This was on the whole characteristic of epidemiological activities also. It became evident within a few years that the public health epidemiological tasks of socialist

building cannot be carried out within the old structure and by the old methods. Since the organization of the Ministry of Health, the Division of Public Health and Epidemiology, and the establishment of scientific research institutes we may speak of planned public health work based on the principles of prevention. The first step was to define the scope of the duties of public health and epidemiological services in order to fit them smoothly into the construction of socialism and to fulfill the requirements expected from them. The most efficient central direction and territorial executive system needed to be devised; new work methods had to be learned, acquiring them from perusing the Soviet literature and from direct and indirect Soviet example. These methods had to be made general practice in the entire service, thus introducing the basic principles of socialist public health into the work. There was need for scientifically established norms and guiding lines in order to bring up to date the obsolete services of public health and epidemiology. Scientific research institutes needed to be established for evolving these norms and guiding lines, for studying the public health problems of the country. The National Institute of Public Health formerly dealt with practical problems primarily; the opportunity to study the scientific-theoretical problems of public health came after its reorganization into a research institute and after the National Institute of Nutrition and Food Hygienics was established in 1949. The opening of the National Institute of Labor Hygienics in 1950 was also important to this process. Two organizations were launched in 1951: the network of megye epidemiologists, responsible for carrying out tasks of epidemiological import, and the state superintendence of public health, endowed with official authority, in charge of preliminary inspection in areas of public health. The establishment of the epidemiologist network resulted in the exemption of physicians from duties other than epidemiological within the health departments, and enabled them to extend their activities, along with the checking and termination of epidemics, also to the detection of the causes and initiation of preventive measures. The organization of the state inspection superintendence marked a great step forward in the development of preventive features of public health work. As a result of the state inspectors' activities, the principles of prevention are being increasingly observed in layout planning, in the evaluation of industrial designs, and in the issuance of work licenses. There were many initial difficulties to be overcome in the work of this public health organ. The difficulties stemmed from lack of understanding on the part of economic management, their lack of knowledge and incorrect attitudes toward requirements of hygiene, and from the inexperience in economic and technological matters of the public health inspectors. It is to be attributed to the activities of the inspectorate that, despite these initial difficulties, all areas of public health now recognize the necessity for prevention.

The megye epidemiologist network and the state public health inspectorate were only the initial steps in the establishment of an organization embracing all facets of public health work. Soviet experience indicated that it is impossible to carry out public health-epidemiological work without a decentralized network of institutions and without a division of labor based on specialized knowledge within these institutions. In the past we did not possess a decentralized network of institutions in our country since the rural stations of the OKI [Országos Közegészségügyi Intézet -- National Institute of Public Health] were primarily doing epidemiological investigations. The solution of the problem dragged out for years, and only in 1954 did the organization of the network begin, first in the capital, then in megye seats, and later in cities with megye seat rights. The laboratory bases for the new institutions were the already existing OKI stations and the district hospital laboratories which formerly conducted investigations on lues serology and other contagious diseases. The station in the capital entailed the expansion and reorganization of the Disinfection Institute of Budapest, while the laboratory work for Pest Megye is being taken care of by the three national institutes. The operative regulations of the stations determine the duties of the institution in the fields of epidemiology, disinfection, and dissemination of public health information. At the time of the initiation of these stations the conditions were not adequate for the expert fulfillment of these requirements. The reasons for this were partly the lack of expert personnel, partly difficulties arising in connection with the layout of the stations, as well as inadequate equipment possessed by the stations. The megye epidemiologists were transferred to the stations in the interest of conformity of public health-epidemiological work and of the preventive and public health inspections. The organizational merging of the state public health inspectorate with the public health-epidemiological stations was launched in 1956.

The public health and epidemiology work assumed a planned nature and broader scope as a result of the operation of the stations and also improved qualitatively, since epidemiologists now were helped in their work by laboratory findings.

Earlier, public health inspection and epidemiological work belonged in the competence of health departments and sections in the jaras, towns, and city zones. However, the majority of the departments and sections did not have sufficient personnel, nor people with adequate training. Furthermore, the inordinate increase in the therapeutic-preventive workload of district physicians, as well as the deficiencies of their training in public health matters added to the problem of continued public health inspection. The public health stations were in no position to carry out preventive and continuous public health tasks presenting themselves on the council level, and requiring, as a rule, rapid operative measures. These circumstances necessitated the organization of the public health network on the council level also. This work was begun in 1957, by creating public health-epidemiological

divisions within the councils of the capital, city zones, districts. The organization of this network is still in progress. The heads of these divisions are state public health inspectors, with one or two physicians specializing in hygienics -- the number depending on the population density of the territory -- who are now in charge of all the preliminary and continuous public health-epidemiological duties which belonged earlier in the competence of district, city, and zonal health departments and sections.

Together with the expanding network, the size of staffs performing the tasks of public health and epidemiological work increased proportionately. In 1955, during the initial period of the stations, there were 753 positions, 140 of which were physician's positions. An additional figure of 48 was represented by the public health inspectors working throughout the country; however, these were not included at the time in the staff of the stations. By the end of 1959, there were 1,111 positions in the stations, of which 235 called for physicians. There was significant progress in the increase of public health-epidemiological staff also. At the beginning of 1955, 404 persons were involved in duties of exclusively public health interest; of these 108 were physicians specializing in hygienics-epidemiology, and 296 were sanitation guards, with the exception of the 48 public health inspectors. By the end of 1959 the personnel of all staffs of district, city, and zonal public health-epidemiological organs had increased to 1,007. Of this figure 242 are physicians' positions, the public health-epidemiological inspectors represent 183, the sanitation guards 464, others, 118.

In view of the development of both the network and the staff, despite the good results, we need to point out a few facts which have a detrimental effect on the carrying out of tasks of public health and epidemiology. The national figure for physicians' positions assigned to public health-epidemiological work is 477; accordingly each 10,000 inhabitants have a 0.48 share of a public health physician. The rate in the USSR for 1955 was 1.18; in 1957, 1.22; in Bulgaria in 1957, 0.8. The physician staff thus is insufficient for the accomplishment of the tasks. Furthermore, many of the sanitation physicians' positions are still occupied by untrained doctors, and many of the positions wait to be filled.

High quality public health services require the participation of various specialties. In 1955, the number of engineers, chemists, and biologists working in the stations was 10. This number increased to 39 by 1959. When the relatively low number of physicians' positions and the difficulties involved in filling them are considered, and the fact that specialists from other fields are also indispensable in public health work, we realize that it is vitally important to draw these specialists in greater numbers to this type of service. The steady increase of the "intermediary cadres" [quotation marks by translator, the concept is typically communist officialese, meaning "semi-professionals"], among the public-health-epidemiological inspectors significantly contributed to the development and effectiveness of the

network's operations. By the end of 1959 a total of 285 inspectors were working in the network, 102 of these at the stations proper. However, the need for intermediary cadres is much greater than this; their work is indispensable because they are able to perform a large part of the preparatory and inspection work not requiring medical training, and thus they promote a more productive utilization of medical manpower and work time. The training of public health intermediary cadres was initiated rather late, resulting in our present lack of trained personnel. The Jozef Fodor Public Health Training School sends out cadres well trained in practical work, but the school's capacity is not large and the shortage of intermediary cadres cannot be overcome by home training. At present 400 cadres are needed in various positions, in city, district, and zonal health departments, and in public health stations. In order to fill the gap, in the future we will offer on-the-job training for high school graduates, retaining of course the method of home training also.

Many factors are responsible for the fact that many medical positions in the public and epidemiology work are held by persons who do not have specialized training in the field. It is a familiar fact that physicians feel an aversion toward hygienics. The past years brought clarification of the issue of specialized training for public health and epidemiological work. The pay rate was determined on the basis of the significance of this work. Both measures constituted recognition of the importance of hygienics experts; and yet, even now, young physicians are loath to go into this work. One reason is that the young physicians, when they leave medical school, are not familiar with the tasks that have to be accomplished throughout the country with respect to public health and epidemiology. Hence it is necessary that problems of environmental influence upon the health of humans be given more attention, and that practical tasks in prophylaxis in general, and theoretical-practical issues involved in public health and epidemiology in particular, be taught in more detail. We feel that, from the point of view of better understanding and training for practical public health-epidemiological work and its methods, it is vitally important that local public health-epidemiological stations participate in practical medical training.

The rapid advance of the science of hygienics and its specialized fields, as well as the practical application of scientific findings, necessitate a specialized training program for hygienic experts. The general training program completed, it is followed by a training program sponsored by the national institutes. This consists of an undetermined training period in the institute itself, of extension courses, and specialized instruction offered by the institutes on the job. These were the methods of training adopted by us in the past. The length of institutional training is, however, considerably influenced by the shortage of staff, and it is not feasible for them to leave their posts for longer periods. It is essential therefore that the national institutes increase their efforts in both time and contents of local instruction programs, and to make the staff working in the

field of hygienics acquainted on the job with the most effective, most progressive methods of their work.

The deficiencies of layout and working conditions represent another, major difficulty in the quality of performance of the public health-epidemiological stations. At the time of their foundation, most stations lacked the basic conditions of operation. During the past two years, two new stations were built, in Hajdu-Bihar and Győr-Sopron Megyes. Stations meeting the requirements of working conditions now exist in the capital, in Vas, Borsod, Csongrad and Tolna Megyes and in Szeged; these were remodeled and some buildings added to the already existing plants. Some improvements were made, but without finding the real answer to the problem in Bekes, Heves Szabolcs-Szatmar, and Zala Megyes. Stations completely inadequate for the purpose are found in Baranya, Bács-Kiskun, Fejér, Nógrád, Somogy, Szolnok, and Veszprém Megyes. Laboratory conditions are adequate in Komárom and Pest Megyes. In the years to come we plan to give precedence to those megye stations which at present are in the worst condition by adding new modern buildings to the stations. The equipment and instrument needs will have to be supplemented, although on the whole, especially in recent years, the situation has improved considerably.

The next few years will need to be devoted, along with the quantitative expansion of public health-epidemiological services, to the qualitative improvement of this work. In this respect we rely on the increased efforts of the national institutes in their on-the-job specialized instruction to extend it both in time and depth. Also we have to solve, in cooperation with the Medical Extension Training Institute, the specialized training of hygienists and epidemiologists who have not yet undergone such instruction, as well as the organization of extension training of hygienics staffs of district, city and zonal public health-epidemiological sections.

III.

Development of Special Fields of Public Health. Settlement Hygienics

Fulfillment of public health requirements was the most important task in connection with reconstruction and building activities. Much help in the solution of these tasks was offered by the progress and achievements of the National Institute of Public Health with regard to settlement hygienics. Construction norms had to be evolved, principles of public health in new planning and in rearranging old settlements had to be worked out. The practical execution of these principles was begun by the State Public Health Inspectorate, and later taken over and broadened by the KOJALs [abbreviation unknown to translator]. We succeeded in the recent years in putting through the principle that no establishment may be initiated without previous public health inspection. Yet another major issue was protection of the drinking water

supply. In this interest measures were taken to protect the water works, for maintenance of installations, setting up of public health regulations for the water reservoir areas, and improving the methods of public health control of the water works. The drinking water situation of the various parts of the country was mapped out and the development plans for better drinking water supply drawn up. In order to be able to give better service in the drinking water supply of the population, water inspection operations, formerly performed only by the OKI, are now decentralized and carried out by the KOJALs; with a few exceptions, the laboratories were made to serve in performing this task for their territories.

A further public health problem was presented by the obsolete practices followed in the disposal of waste water. Since then, the general guiding principles of sewerage have been worked out, helping in the correction of practices in settlements and industrial plants, and ensuring that the new settlements and industrial works have adequate equipment for the disposal of sewage in accordance with these principles. However, there is still need for more detailed practical instructions and for stepped up scientific research regarding the requirements of public health measures in some areas. The rapid expansion of socialist large scale agricultural production, and that of chemical industry, make these problems and their solution eminently important; the methods of sewage purification to be devised must be economical and safe.

Due to the low iodine content of the soil and of the drinking water, goiter was rampant in some parts of the country. Following preliminary investigation, regular distribution of iodine-enriched salt in the afflicted areas was initiated in 1949. As a result, goiter endemia ceased to exist in these areas. Statistical inference suggests that distribution of iodized salt decreases the number of first-degree goiter cases by 30 to 40 thousand each year.

A major area of settlement hygienics is the work directed toward the improvement of public sanitation practices. Public health organizations wage a successful battle against the further pollution of the soil by ensuring the observance of public health regulations regarding the disposal of offal, trash and fecal matter. Large-scale community actions were organized to this end, in the form of the "Cleanliness Movement" and "Cleanliness Month". Today, the majority of the population participates in the sanitation movement.

The expansion of industrial and residential settlements causes the vitiation of the air to increase considerably, resulting in damage to health. There is little progress toward a radical solution to this problem. The examination of the composition of the air in the capital is followed by the investigations concerning pollution of air of various industrial settlements throughout the country. Here again, scientific research needs to be intensified and the necessary steps taken to equip the public health stations to conduct examinations in air hygienics.

The attack on public health problems arising in connection with agricultural settlements becomes increasingly urgent with the rapid

development of the socialist large scale agricultural system. Based on thorough investigation, the guiding principles of the development of agricultural settlements, as well as of the planning of new settlements needs to be worked out. We also have the responsibility of offering more help to the agricultural cooperatives in the elimination of existing public health hazards and the prevention of such hazards, in better health care for persons working in agricultural occupations, for the purpose of the foster development of agricultural production.

In the interest of raising the standards of settlement hygienics activities, there is need for more research in this field, and also need to substitute for the still prevalent mechanical approach one that is oriented more toward the use of biological methods.

In the interest of effective, successful operation of settlement hygienics services, we must enable the district, city, and zonal public health-epidemiological sections to carry out preliminary and continuous inspection of new establishments and worker's hostalries, as well as to enforce public sanitation regulations. Thus the settlement hygienics experts of the KOJALs, free from the encumbrance of routine work, will be able to devote their time to tasks which require profound study, such as, for example, public health requirements to be incorporated in the planning of a given new settlement, working out plans for alleviating the pollution of air of cities, the evaluation of newly built apartments from the point of view of public health principles, etc.

Food hygienics

Prior to the liberation, the efforts of food hygienics were limited almost entirely to the detection of adulteration of food stuffs. Today the task of food hygienics is the protection of the population's health and increasing its working capacity by promoting the production of quality food and by contributing to the improvement of food distribution and canteen meal service. The first step toward the execution of these objectives was the creation of research facilities for this neglected area. The foundations were provided for this work by the establishment of the National Institute of Food Hygienics and Nutritional Science in 1949 and the subsequent scientific activities of the Institute. The activities serving the enforcement of public health requirements in the food industry and food distribution were outlined in the 1951 Cabinet decision on the development of food hygienics. Based on the guiding principles of this decision, the various statutory provisions of food hygienics were set up concerning food production, canteen meal service, the food supply network, as well as the public health and sanitary regulations pertaining to market and street vendors of food-stuffs. The procedure relating to food poisoning was laid down. Public health regulations for food transportation were issued. Compulsory preliminary and continuous medical examination of personnel employed in positions where they handle food was instituted; these persons are

then provided with a Health Book. Regular instruction in hygienics has been launched for employees in the food supply network. While part of the public health work was directed toward improving the hygienic conditions of already existing plants and companies, norms and principles were also worked out to be applied in the design of new food processing plants. After having assured the elementary conditions, we turned our efforts toward the improvement of the food and nutrition of the population. There is remarkable progress to be observed in this respect in the scientific work of the OETI (Országos Élelmezési és Táplálkozástudományi Intézet -- National Institute of Food Hygienics and Nutritional Science).

The direction of the further development of food hygienics was mapped out by the decree of 1958, containing the quality requirements and health regulations for the production of and commerce in foodstuffs and beverages.

There is significant improvement to be observed in the public health conditions of the food industry and food commerce, attributable to the periodic evaluations and continuous inspections carried out by the public health authorities. One factor in this achievement is that the public health authorities worked in close cooperation with the organs of the food industry and food distribution, both as far as central direction and local practical execution were concerned.

Despite unquestionable progress in the field of food hygienics, we are still faced with unsolved problems. To mention only the major ones: the technical aspects of food transportation, particularly in the country, are still inadequate, the storage and freezer-plant network inadequate, a significant number of the communal feeding units do not meet specified public health regulations, etc. As a result, the foodstuffs and meals available to the public may, due to qualitative deterioration, impurity or contamination, cause damage to the health of the population. Food poisoning is a frequent occurrence even today. The dietetic food supply is not satisfactory, even for hospitals and clinics. As yet, there is no clinical section operating to work out the methods of widespread application of the findings of scientific dietetical research.

It is necessary to increase the food hygienic activities of the KOJALs, employing uniform methods of inspection, and they must be equipped to carry out laboratory examination of food substances. They need to participate in the work of data collection on communal meal services, the objective of which is the caloric and biological evaluation of the food offered as well in the establishment of service and cost indexes. The demands of the population in regard to the improvement of canteen meals and to increased production of semi-finished foods must be met. Our task consists of determining the public health requirements of transportation, production and distribution, and of improving the nutritional and biological value of victuals in the interest of a speedier improvement of the living standard of our people.

Labor hygienics

Prior to the liberation, practical labor hygienics had a very limited scope. The Department of Industrial Health Care, established by the OTI in 1934, to which an industrial hygienics laboratory was added in 1940, had to limit its activities to a few plants in the Budapest area. The reason for this was lack of personnel and space. Evidently, under the given social system, the interests of the exploiting classes were not exactly served by revealing the grave deficiencies in the area of labor hygienics or by working out the methods of liquidation of these deficiencies. Large-scale scientific research in the issues of labor hygienics started only when the National Institute of Labor Hygienics began its operation in 1950. The findings of the investigations of this Institute have given the clue to the many issues of principle to be clarified in the field of labor hygienics. To mention only the most important of these: the establishment of the health requirements for women and minors' employment, regulation of the allotment of occupational hazard allowances, protective clothing and food, setting up of more than 60 protective measures pertaining to accident prevention and health care, introduction of shorter hours in jobs damaging to health, determination of the organizational principles of industrial operations in accordance with public health requirements, measures for protection against radiation hazards, etc. Labor hygienics activities were considerably increased thanks to the establishment of KOJALs. We have scored successes in the protective measures worked out against the major occupational hazards. In the fight against silicosis, a survey of diseases caused by inhalation of dust was first prepared, after the completion of which the necessary technical conditions for diminishing the harmful effects were worked out in cooperation with the industrial ministries. In the area of chemical effects, we succeeded in decreasing the pollution of air to well within safe limits with help of adequate ventilation systems, in establishing closed-system procedures, by substituting less harmful materials for strongly poisonous ones, etc. In the interest of workers exposed to high temperatures, arrangements were devised to screen the source of heat and to employ adequate ventilation methods. Protective regulations concerning the production and use of fertilizers were evolved on the basis of toxicological investigations. Measures were introduced to provide protective liquids to workers exposed to high temperatures to balance their loss of fluid and salt reserves. In the interest of diminishing the occurrence of occupational skin diseases, we promoted the substitution of less harmful materials for harmful substances. The introduction of various detergents, skin creams, and balsams is designed to give added protection to exposed workers.

The peaceful use of radioactive materials necessitates the establishment of public health requirements for anti-radiation measures. It has become necessary to examine periodically the work sites and exposed workers.

The achievements, considering that planned labor hygienics activities practically begun only in 1950, are considerable. Nevertheless the scope of regular labor hygienic services is still relatively narrow. The reason for this is that we have been unable to obtain the necessary staff and that the laboratory conditions of the KOJALs are not adequate for carrying out the necessary investigations. Our tasks in this regard are: to increase the efforts to train specialists in the labor hygienics field and to create the necessary conditions for laboratory work.

School health care

As a result of the large scale extension of primary, secondary, and university education, the number of students has increased tremendously. The new schools could not keep pace with the demand for educational opportunities. The majority of the old school buildings did not meet hygienic requirements. The hygienic requirements of schools were determined in principle as early as 1954, but the regulations could not be complied with at the time for economic reasons and the absence of adequate control. During the past years the KOJALs made an estimate of the school hygienic situation, and we were able, on this basis, to work out the principles to be taken into consideration in overhauling and renewal programs for the school system. The problem of teaching hygienics in teachers' colleges and in general [8-year primary school] schools has been regulated. The problem of health education in secondary schools was also dealt with. A new facet of school hygienics presented itself with the initiation of polytechnical training. The area of school hygienics is perhaps the one showing the least progress. Conditions for scientific research were established as recently as 1959, within the framework of the OKI. School hygienics is treated as a side issue in the work program of the territorial network.

IV. The Development of Epidemiology

Prior to the liberation, the fight against contagious diseases was limited to law enforcement and hospitalization and treatment of afflicted persons. The decrees dealt only with particular diseases in connection with an epidemic or the danger presented by the disease. There was no inclusive, planned organization. The medical officer involved in the actual preventive work could not fall back upon a set of principles and found it difficult to orient himself in the labyrinth of various decrees. Neither planning nor preventive principles were observed. There was no cooperation between the man of science and the man of practical work in the interest of effective prevention; the conviction prevailed that the task of science is to deal with the processes of epidemics and its laws, while the institution of preventive measures was the responsibility of the practitioner. This approach engendered a static, philosophizing attitude in epidemiology, and the medical generation educated in this spirit considered as its

sole task only the execution of such measures as were necessitated by a particular situation.

The liberation meant a turning point in epidemiology also. The changing economic, social and political structure of the country, along with familiarization with Soviet experience and the theoretical and practical aid of the USSR, worked an improvement in the state of epidemiology.

The creation of the scientific basis for epidemiological work ensued when the war-caused damages were restored; the planned development of the OKI, replacement of lacking equipment, increased staff were the conditions to be met. The results achieved in the field of epidemiology are largely due to the research activities of the OKI and their efforts to work out methods of practical application of scientific findings.

During the period following the war, the task second in importance to the prevention of directly threatening epidemics was the creation of a decentralized epidemiological organization able to carry out rapid, effective measures. For this we needed a specially trained staff and the possibility of conducting laboratory investigations. There was also need for coordination of the work of the various organs involved in epidemiological operations. The megye network of epidemiologists served this purpose even before the setting up of the KOJALs and the establishment of epidemiology committees and district laboratories.

Another step forward was taken when the large scale production of sera and vaccines was taken over by the Anthrotopotherapy Department of Phylaxia, which later became the Institute of Scientific Research and Production of Sera and Vaccines for Humans.

The establishment of the KOJALs meant many advantages from the viewpoint of epidemiological progress. It resulted in uniform practices in public health, epidemiology, and health information programs. This in turn enabled the epidemiologists to capitalize to an ever larger extent on these services. The authority of the KOJAL directors made the execution of epidemiological measures possible, by the use of sanctions, if necessary. The existence of these centers offers help to epidemiologists in the form of well-trained intermediary cadres.

The establishment of KOJALs stimulated laboratory work in the area of epidemiology. The activities of labs in the past were limited to bacteriological and serological studies and their contacts with epidemiologists were rather lax. Today the close cooperation of epidemiological and laboratory work within a station contributes to the improvement of services and is an asset to further development.

The sanitation guard and disinfection network was developed simultaneously with the epidemiological organization on the megye level. The number of sanitation guards increased from the initial 40 to 464; putting it differently, there is one sanitation guard to every 20,000 inhabitants.

The extension education of staff employed in the epidemiology service network constitutes an integral part of the development program.

An inclusive set of regulations concerning contagious diseases was contained in the Cabinet decree of 1953 concerning prevention of contagious diseases and the use of immunization. Prior to this there were only partial regulatory instructions in existence, such as those pertaining to triple vaccination against diphtheria, uniformization of diphtheria and smallpox vaccination, the regulation of the sanitation guard service, etc. The comprehensive regulations contain detailed instructions in connection with contagious diseases occurring in our country, regarding the duties of the physician in attendance, reports and records of cases suffering from contagious diseases, laboratory investigations, and practices concerning hosts of pathogenic micro-organisms.

The basis of our present immunization system is the decree pertaining to immunization. That our system is correct is being proven by the considerable decrease in cases of diphtheria and typhoid. Our system, as compared to foreign systems known to us, prescribes a large number of repeated vaccinations, a unique feature, which is cumbersome for both the health care services and the patients to be vaccinated. Despite this difficulty, the fulfillment record of immunizations is improving with each year. This is to be attributed, in addition to the good work of the health staff and the understanding participation of the community, to the introduction of multiple sera.

In the interest of heightening the resistance of the population to epidemics, our immunization system is being steadily perfected with the help of the combined efforts of serum experts, producers, epidemiologists and organizers of health services. Since 1957 we have been gradually switching from the system of immunization of infants at a specified age to the continuous system. This will enable persons to receive immunization at the time most convenient to them, and results also in an increase of the fulfillment ratios. Simultaneously, encouraged by the favorable results of related immunological studies, the minimum age for diphtheria-pertussis-tetanus vaccination will be reduced to three months. This change is expected to influence favorably the occurrence of pertussis in the youngest infant group.

Also to be mentioned is the regulation concerning the fight against various pests, such as vermin of all kinds harmful to health, as well as rodents; this regulation makes it possible to enforce protective measures by institutions, organs and private persons. The effectiveness of pest control has improved perceptibly over the past years as a result of this measure.

The expansion of the epidemiological network and the increasingly consistent application of scientific findings in practical work resulted in the overall improvement of the country's epidemiological situation. The achievements and deficiencies of this work are reflected in the occurrence of the various contagious diseases.

The past 15 years may in general be considered favorable as regards contagious diseases. There is steady improvement in diseases which may be arrested by specific epidemiological intervention, such as immunization. Some of these, which were rampant before the liberation --

particularly during the war years -- either have disappeared completely, or have become much more infrequent. Such are: recurrent fever, spotted fever, human rabies, and malaria. The occurrence of enteric fever, diphtheria and tetanus have considerably diminished in recent years. In contrast to the above listed diseases, some contagious illnesses, such as dysentery and hepatitis epidemica, still present serious epidemiological problems. We have not progressed much in the years past in methods of prophylaxis against these plagues.

The following are data indicating the occurrence trends of the major infectious diseases (all data for 1959 are preliminary, partially processed):

The low point was reached in the occurrence of enteric fever [typhoid] with 540 cases. This figure is less than one tenth of the cases during the last year of peace before World War II, and less than the number of fatal cases in that same year. This may be attributed to the consistently executed immunization program, the detection of germ carriers, the improvement of environmental sanitary conditions, and epidemiological activities connected with enteric fever patients. In recent years no typhoid epidemics have been noted and the reported cases were sporadic.

Dysentery is being watched throughout the country. The number of cases increased during recent years. Its seasonal character is no longer pronounced and occurrences are reported all year round. In recent years there has been an increase in localized cases, usually caused by the drinking water. Our procedures for the prevention of dysentery (phag, chemoprophylaxis) were unsuccessful. Experiments with anti-dysentery serum, apart from the laboratory results, do not give reason for hope. Hence it is necessary to apply the methods of public health practices and health information in the struggle against dysentery.

The number of hepatitis epidemica cases increases every year. This disease poses one of the most serious epidemiological problems, due both to its frequency and its fatality rate. We face the same difficulties as far as prevention is concerned as in the case of dysentery. The main difficulty lies in the circumstance that the clinical diagnosis is reached when it is already too late from the epidemiological point of view. The abortive cases, not accompanied by jaundice, are not detected and isolated. Experimental projects are conducted in various parts of the country, aimed at expansion of the fight against hepatitis epidemica and at the evaluation of the methods applied. Translator's note: [It is felt that the author's meaning is this: different experimental methods are applied in different parts of the country and the results compared]. The objective of this work is to establish the possibilities and conditions which, as far as our present knowledge goes, are conducive to the execution of certain measures. It is also our objective to evaluate the results of this work. Our present experiences are to the effect that the detection of abortive cases, wide-spread environmental screening, gamma globulin shots, and the isolation of suspected and ill patients in hospitals make extremely

great demands of both work and expenses.

Infantile paralysis, up to 1954, occurred sporadically throughout the country. The average number of cases reported was around 300 a year. While there were only four years between 1931 and 1954 which could be considered epidemic, the years since 1954, with the exception of one year, were all epidemic. The severest epidemics occurred in 1957, with 2334 cases of infantile paralysis. The distribution of Salk vaccine was begun at the height of this epidemic; as a result the curve of new cases dropped rapidly. There were extremely rare cases in 1958. Between 1957 and 1959, approximately 2.5 million persons received at least three shots each. Estimates put the effectiveness rate of the serum at 80 per cent. However, the effect was not as lasting as expected; a new wave of epidemics occurred during the summer of 1959. By the end of 1959, thanks to research abroad, particularly to the experience gained in the USSR in the course of more than ten million vaccinations, we switched to the use of the Sabin vaccine and immunized the entire population between the ages of three months and 14 years, two and a half million children in all.

Due to regular vaccination, diphtheria is losing much of its importance. During the early part of the 1930's, 15,000 to 20,000 cases were reported, with 1,000 to 1,500 fatalities. The cases are now fewer than the number of fatal cases at that time. There were 478 cases reported in 1959.

Scarlet fever, with small fluctuations, causes 5,000 to 10,000 disease cases yearly; the number of cases in epidemic years is 20,000 to 50,000. There is no improvement in the prevention of this disease. We have not adopted a method of regular immunization according to age brackets because vaccination does not assure lasting immunity. Fatality has diminished in recent years, which may be explained by the changing nature of the disease as well as the application of antibiotics.

As a result of the use of anti-pertussis vaccine, pertussis cases have been reduced by more than 50% in the age groups which received double shots. It is hypothesized that cases reported in 1959 were relatively few, 2,852.

We do not have a method of protection by immunization against morbilli. There was no decrease in the number of cases reported over the years past. We endeavor, using passive immunization by gamma-globulin, to postpone the occurrence of the disease to an age when it may be expected to be less dangerous. In this respect, the significant increase in the gamma-globulin supply has been a great help.

There were repeated influenza epidemics throughout the country. We do not possess a specific method of prevention due to the lack of vaccine which is dependable, effective and adequate for the purposes of mass vaccination.

One indisputable achievement of epidemiological work is the decrease in tetanus cases in recent years. This decrease has become a steady feature since 1955. In 1959 the number of reported tetanus cases was 193. This is the result of compulsory immunization in certain hazardous occupations and, since 1954, for specific age groups. In 1960 practically the entire population below the age of 20 years may be

considered protected against tetanus as a result of the execution of the active immunization plan. The fatality rate in the immunized age groups shows an 80 per cent drop.

No human lyssa cases have occurred in Hungary since 1954.

The occurrence of spotted fever cases have decreased steadily since the war, when there were many thousand cases while not a single case was reported during the past two years. This is due to the measures taken, using force even, when deemed necessary, to prevent the spread of lice and spotted fever.

There is a steady decrease in malaria cases also. The reported cases mounted to 3-4,000 after the war. Today there no longer exist territories in which malaria is endemic. The cases reported during the past three years never reached ten. This was achieved by means of establishing centers for the fight against mosquitoes and by offering free treatment to patients suffering from malaria.

Summarizing the epidemiological trends observed for the past 15 years, it may be stated that our fight against bacterial infections -- with the exception of dysentary -- was successful. This proves the correctness of the methods employed. The gravest problems of epidemiology are inherent in dysentary and certain virus diseases. Hence, in our future planning we need to concentrate on these areas.

Cases of Contagious Diseases

Year	Anthrax	Diphtheria	Dysentary	Hepatitis epidemica	Malaria
number of cases per 100,000 inhabitants					
1938	2.07	61.53	66.92	.	69.53
1945	0.45	80.05	39.21	.	11.22
1946	1.95	99.11	27.22	.	27.18
1947	1.32	57.54	23.47	.	33.80
1948	0.98	38.89	16.82	.	39.91
1949	0.96	66.64	16.00	.	18.69
1950	1.42	47.00	27.17	7.42	4.45
1951	0.63	30.22	68.96	23.99	2.84
1952	0.76	21.82	92.34	76.34	2.42
1953	0.45	18.92	149.72	133.64	1.57
1954	0.16	15.11	99.37	132.66	0.48
1955	0.39	11.00	125.55	158.93	0.46
1956	0.40	9.00	113.30	199.50	0.40
1957	0.41	6.94	138.68	194.92	0.09
1958	0.32	4.62	99.29	196.60	0.06

(continued on page 18)

Cases of Contagious Diseases (continued)

Year	Morbilli (measles)	Pertussis	Infantile Paralysis	Scarlet Fever	Tetanus	Typhoid (enteric fever)
number of cases per 100,000 inhabitants						
1933	415.65	62.30	3.29	135.32	.	65.63
1945	8.26	32.42	3.10	48.29	.	119.42
1946	125.31	73.70	2.51	87.87	.	43.44
1947	587.39	49.32	11.40	128.86	.	31.43
1948	159.00	136.71	3.43	230.71	.	21.55
1949	174.20	130.04	3.22	563.93	.	17.61
1950	427.36	73.34	2.75	554.62	4.98	14.50
1951	486.75	261.72	3.29	285.22	5.77	16.51
1952	249.97	199.21	5.26	209.33	5.76	12.97
1953	566.66	594.35	3.26	184.87	5.15	16.80
1954	380.49	200.63	12.13	126.46	4.08	9.88
1955	510.48	98.17	6.29	147.85	3.78	9.27
1956	374.70	92.70	11.20	212.30	3.30	7.60
1957	383.62	153.59	23.78	142.38	2.63	8.30
1958	493.86	131.43	1.67	247.57	2.57	6.17

V. Development of Information Services in Health Affairs

Prior to the liberation, health information services were limited to certain military and epidemiological tasks, without reaching the broad masses and raising the standards of their hygiene culture.

The information work began after the liberation, primarily as a spontaneous activity of physicians and health nurses. Significant progress in this work was brought by the initiation of the activities of the OKI's propaganda department in 1948, bringing uniformity and planning to it. At the time of the reorganization of the Ministry in 1951, the duties of the OKI propaganda department were transferred to the Department of Health Information, incorporated in the Ministry itself. The activities of the department promoted organization and planning in the field, as well as coordination of the information activities of the various agencies. Yet another phase in the development was marked by the establishment of the KOJALs, placing this work on a territorial basis. However, the tasks of health information soon outgrew the boundaries of the ministerial department, and out of the department grew, in 1958, the Health Information Center.

This agency considered the education of the population, its participation in disease prevention, and the mobilization of society in the interest of attacking the problems of public health as its main task.

The past 15 years brought improvement not only in the approach to health information, but also in its techniques and means. Health information publications multiplied, especially in recent years, and in 1959 reached 12.6 million copies.

During the past two years, 60 traveling exhibitions around seven topics were organized and four major central exhibitions were set up. The number and quality of the short documentary films, well-adapted to this type of work and liked by the public, improved considerably. While in 1950 we produced two short films, at present there are 80 Hungarian and ten foreign health films with Hungarian dubbed in in circulation; of these there are 2500 prints available. Our documentary films pertaining to health information won first prizes at the Cannes and Budapest international festivals of health films in 1958 and 1959, which is undisputable proof of their quality.

The past years has brought increasing participation of the radio network and the press in health information work. Along with the national newspaper, many local papers and company publications feature articles designed to disseminate health information. The Budapest Radio broadcasts series of informative lectures; there is increasing participation in this service on the part of local radio stations also. Cooperation with the television company is being worked on.

The number of lectures on health matters and attendance at such lectures is increasing nationally.

Selection of topics for dissemination is now being done on a planned basis and is geared to the needs and demands of the various fields of health and hygiene. Activities are to be increased in the fields of infant and mother health, as well as in school and labor hygienics.

Close cooperation has been established with health organs, educational organs, mass and community organizations in the interest of effective health information services. The result of this is observed in the rising standards of health information work in the industrial plants. With the help of the uniform organizational and methodological principles worked out jointly by the SZOT [Szakszervezetek Országos Tanácsa -- National Council of Trade Unions], the Red Cross, and the various industrial trade unions, wide-spread health information activities are now pursued in plants.

Health education has become, as a result of the productive cooperation with the educational organs, an integral part of nursery school and school instruction.

The Red Cross carries out the most varied health informational work on the broadest scale among all the mass organizations. The Red Cross activities help the health agencies in the various tasks of mobilization and performance of practical tasks in a significant way. The activity of the Red Cross workers is today indispensable in mobilization for TB and cancer screening, in the organization and execution of mass vaccinations, and the promotion of the "Cleanliness Movement".

The cooperation with the TIT [Tudományos Ismeretterjesztő Társulat -- Association for the Dissemination of Scientific Information] and with the Women's Council in the work of disseminating and education has a broad basis. We need to intensify our cooperation with the Women's Council in the areas of infant and maternal care and in the fight against alcoholism.

Health informational activities must be stepped up primarily among the agricultural working population, which it is hoped will result in significant improvement in the health culture of the agricultural workers.

The situation of public health and epidemiology may be improved -- and indirectly cause the improvement of the working and living conditions of the people -- only by the concerted efforts of all health, Party, state and community organizations. The task of the public health-epidemiological network is to determine, on the basis of the evaluation and analysis of the public health-epidemiological situation of the country, the objectives to be reached. However, only part of the fulfillment of these tasks is within the competence of health organs. The majority of these tasks directly involve practically all branches of the people's economy. Unaccomplished tasks in the area of public health and epidemiology will produce effects not immediately apparent in most cases. Similarly, the results of work accomplished will manifest themselves to a measurable degree only after some time. This is the reason why certain organizations in the economy do not, or only reluctantly, comply with directions of public health import. Often these defaults will cause damage, such as epidemics from drinking water, food poisoning, etc., and the defaulters will become convinced only through these, or the repercussions entailed, of the necessity of observing the public health directions and measures.

At the time of the establishment of the KOJALs, the public health-epidemiological committees appeared to be best suited for the implementation of coordination of agencies required to execute public

health directions. At first these committees were responsible only for the coordination of epidemiological activities; later, with the addition of representatives of official and community organizations, they assumed the responsibility for coordinating public health activities also. However, they were unable to perform as thorough work as was needed in the public health tasks. Soviet experience indicated that the significance of these committees, assigned to the public health-epidemiology stations, is enhanced by having the members appointed by the executive committee of the local council, and having delegates of the Party committee and council executive committee participate in their activities. The participation of representatives of the Army and police, major companies and specialized departments of councils, medical heads of therapeutic-preventive institutions, a few district physicians, the heads of research institutes residing in the territory, and the Red Cross representative is also required. From time to time, outside expert may be consulted. The Soviet public health-epidemiology councils follow a year-round work plan. The public health and epidemiological situation of their territory, the measures necessary to eliminate deficiencies -- both economic and health measures -- as well as assignment of tasks to the various organs are being discussed at their meetings.

It is deemed necessary, in the interest of better results and planned progress in the work of public health-epidemiological committees, to evolve more efficient methods and organizational structure, based on the above discussed experience. Future improvement of the conditions of public health and epidemiology in our country and the elimination of deficiencies is possible through the coordinated, joint efforts of public health and epidemiological agencies, official and economic organs, and Party and community organizations.

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